GOLDEN NEMATODE

PROGRAM PROFILE

Goal	To maintain a risk-based management system to prevent the spread of golden nematode and new infestations in potatoes, and to facilitate international and interstate agricultural shipments.
Enabling Legislation	7 USC 150 (Golden Nematode Act of 1948).
Economic Significance	Production of potatoes, tomatoes, and eggplants is estimated at $80 million annually in NYS and $5.7 billion nationally. The inclusion of other soil-bearing commodities that could come under regulation, such as nursery and ornamentals, would increase this figure at least threefold.
Principal Approach And Methods Used to Achieve Goals	Regulatory activities to prevent golden nematode spread to non-infested areas and non-chemical control activities. Program methods include the systematic use of resistant varieties of potatoes to reduce golden nematode populations to below detectable levels. Federal and State regulations reduce possibility of spread. The State of New York requires growers to plant resistant varieties on land treated since 1972. New York now requires the use of resistant varieties on exposed land as well.
History	Discovered on Long Island in 1941. Program began in 1946. Found in Steuben (1967), Wayne (1974), and Orleans (1976) counties in upstate New York, and New Castle county (1969), Delaware. Regulated area was under State quarantine prior to establishment of Federal quarantine. Federal quarantine was invoked in 1969, in New York and Delaware. Delaware was removed from quarantine in 1970.
State and Local Cooperation	The New York Department of Agriculture and Markets shares the regulatory responsibility for the program with APHIS. Cornell University and the New York Certified Seed Potato Improvement Cooperative provide research assistance to accelerate the development of new resistant potato varieties.

Involvement of Other Agencies Agricultural Research Service, the Extension Service, and the Cooperative State Research Service provide assistance.

RESOURCE DATA

----------Obligations----------

	Direct	Reimbursement	User Fees	Staff-Years
FY 1997	$438,961	--	--	7
FY 1998	$441,225	--	--	7
FY 1999	$431,400	--	--	6
FY 2000 (est.)	$580,000	--	--	7
FY 2001 (est.)	$580,000	--	--	7

	APHIS	Coop	Total	CCC	Contingency Fund
Cum.	$32,922,097	$15,711,872	$48,633,969		$1,552,860

RECENT ACCOMPLISHMENTS

GN-Resistant Varieties Through increased surveys, the program enabled the export and interstate shipment of a wide variety of agricultural products, without restriction from any GN-related phytosanitary concerns. In FY 1999, APHIS collected 8,228 soil samples from 3,761 acres in Allegany, Genesee, Madison, Wyoming, Livingston, Seneca, Steuben, Suffolk, and Wayne Counties of New York State (NYS). Five new detections of GN were found in potato fields within the quarantined area. An ARS nematologist at Cornell University tested all viable GN cysts from processed soil to determine if the newly discovered RO2 strain of GN was present. This strain can infect and reproduce on potato varieties that are resistant to the RO1 strain that caused all previous infestations in NYS. We made no new detections of the R02 race in FY 1999.

APHIS supported the development of GN-resistant potato varieties at Cornell University through a

cooperative agreement. This control method has been highly effective in reducing GN populations in infested fields. Several decades of breeding these varieties resulted in increased quality and quantity and allowed growers greater latitude in complying with the crop rotation scheme used to control GN. APHIS and NYS continued to encourage potato growers to use GN-resistant varieties, a practice which is becoming increasingly popular; potato acreage planted with resistant varieties increased from approximately 3,500 acres in FY 1998 to 3,800 acres in FY 1999. Through the planting of GN-resistant varieties and other activities, this program protects several crops in NYS, particularly potato, tomato, and eggplant. These crops are worth $80 million annually in NYS and $5.7 billion nationally. The inclusion of other soil-bearing commodities that could come under regulation, such as nursery and ornamentals, will increase this figure at least threefold.

GN Review Panel

In FY 1999, APHIS continued to address recommendations from a 1997 GN review panel representing APHIS, the NPB, the potato growers' industry, and ARS. For example, the panel recommended that the program attempt to develop other effective control methodologies. APHIS continued a vigorous program of pressure washing 1,235 pieces of used farm equipment in 1999, to prevent intrastate movement of GN. Also, APHIS and ARS continued to actively pursue field deployment of a steam heat treatment to replace methyl bromide fumigation in treating GN-contaminated farm equipment to prevent GN spread. The treatment program should be available by July 2000. In addition, the panel recommended completion of the national GN detection surveys by having States complete crop pest surveys. The panel recommended that the program continue to intensely manage GN in NYS. NYS requires and enforces the planting of GN-resistant potato varieties, but only on infested regulated land and not on exposed land, which is in close proximity to infested land. APHIS continues to survey exposed land to detect the onset of new GN infestations and recommends NYS regulate any newly infested land.